IDAHO COUNTRY SOUTH (PWS 1090084)
SOURCE WATER ASSESSMENT REPORT

January 23, 2001

State of Idaho
Department of Environmental Quality

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Idaho Country South (1090084)* located in Bonner County, Idaho, describes the public drinking water system, the associated potential contaminant sources located within a 1,000' boundary around each drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should <u>not be</u> used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

The Idaho Country South drinking water system consists of two wells. Well #1 is located approximately 40' west of cabin 2. Well #2 is located approximately 30' north of the same cabin. The first well was drilled in 1972 and deepened in 1982. The second well was drilled in 1982. Both are maintained appropriately. The wells are located approximately 50' from each other and share many traits. Both wells received high construction and hydrologic sensitivity scores. The wells are relatively shallow at 85' feet deep and are located within the 100-year flood plain, making them susceptible to contaminant spills and floodwater. Additionally, the soils in the area are composed of gravel and sand; neither provides significant protection against contaminants moving through the soil. There is no protective layer of clay positioned above the wells, which would act as a barrier to contamination. Additionally, the Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Various aspects of the standards can be assessed from well logs. Table 1 of the *Recommended Standards for Water Works (1997)* states that 6" steel casing requires a thickness of .280" and 8" steel casing requires a thickness of 0.322". Well #1 has a 6" steel casing and Well #2 has an 8" steel casing. Both casings are 0.250" thick.

There are a total of 15 contaminant sites located within the source water assessment areas for Wells #1 and #2. All but one of the sites were identified during an enhanced contaminant inventory performed with the assistance of Mr. Bob Hansen. The majority of the sites are septic system-related. The four septic tanks in the area presently feed to a common drainfield located southeast of the wells. Idaho Country South recently installed two additional drainfields just west of the current drainfield. There are three additional microbial sites located within the wells' source water assessment areas, a grey water tank, a well and public restrooms. There are three fuel-related sites located within the assessment areas. Two of the sites are closed, which decreases their chances of producing contaminants. There are two major transportation corridors located within the source water assessment areas, a rail line and a highway. As a result of the

presence of these sources, the wells received moderate potential contaminant/land use scores in the categories of volatile organic chemicals and synthetic organic chemicals. In accordance with Idaho's Source Water Assessment Plan, the wells were automatically assigned high potential contaminant/land use scores in the categories of inorganic chemicals and microbials because of the presence of a contaminant source (two septic drainfields) within the sanitary setback distance for the wells. Idaho Country South has secured waivers making this decreased separation distance legally acceptable.

The wells' overall susceptibility rating is high. A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary. Information regarding the potential contaminants within the 1,000' boundary have been summarized and included in Table 1.

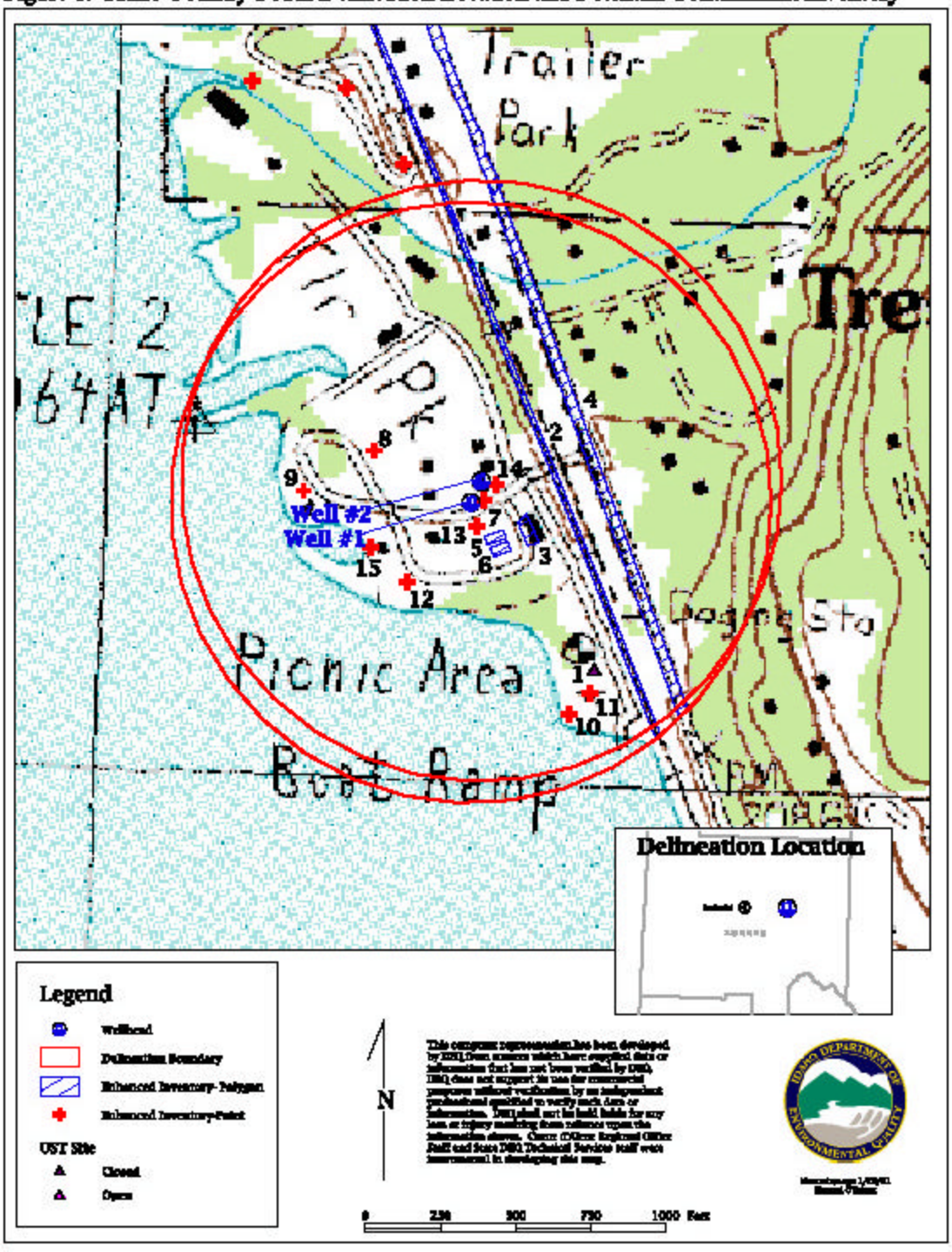
Table 1.

SITE #	Source Description	Source of Information	Potential Contaminants
1	UST- Closed	Database Search	VOC, SOC
2	Main Rail Line	Enhanced Inventory	VOC, SOC, IOC
3	Septic Drain Field	Enhanced Inventory	IOC, Microbial
4	Highway	Enhanced Inventory	VOC, SOC, IOC
5	Septic Drain Field	Enhanced Inventory	IOC, Microbial
6	Septic Drain Field	Enhanced Inventory	IOC, Microbial
7	Grey Water Tank	Enhanced Inventory	Microbial
8	Septic Tank	Enhanced Inventory	IOC, Microbial
9	Septic Tank	Enhanced Inventory	IOC, Microbial
10	Well	Enhanced Inventory	Microbial
11	Public Restrooms	Enhanced Inventory	Microbial
12	Septic Tank	Enhanced Inventory	IOC, Microbial
13	Septic Tank	Enhanced Inventory	IOC, Microbial
14	AST	Enhanced Inventory	VOC, SOC
15	UST- Closed	Enhanced Inventory	VOC, SOC

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

UST= underground storage tank, AST= above ground storage tank

Figure 1. Idaho Country South Delineation Location and Potential Contaminant Inventory



This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Idaho Country South should focus source water protection activities on implementation of practices aimed minimizing the possibility of microbial contamination of the well. This might include ensuring proper maintenance of the septic system located within the campground. The wells should be adequately protected against flooding and microbial contamination that might originate in the public restrooms, well and grey water storage tank. Because the soil is so porous in the area surrounding the well, proper storage and disposal of hazardous wastes is extremely important. You may want to establish a dialogue with all involved parties related to the items described above. Idaho Country South should also consider developing a contingency plan that outlines what steps would be taken in the event of a contaminant spill originating in the nearby transportation corridors. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing source water protection strategies please Alan Miller at the Coeur d'Alene regional IDEQ office at (208) 769-1422.

DEQ website:

http://www.deq.state.id.us

Attachment A

Idaho Country South
Well # 1, #2
Susceptibility Analysis
Worksheet

Ground Water Final Susceptibility Scoring

0-5 = Low Susceptibility

6-12 = Moderate Susceptibility

13-18 = High Susceptibility

Ground Water Susceptibility Report Public Water System Name : IDAHO COUNTRY SOUTH Well# : WELL #1

Public Water System Number 1090084 12/20/00 9:04:53 AM

1. System Construction		SCORE
Drill Date	6/21/82	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	1997
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	NO	1
Total System Construction Score		5

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	NO	2
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		6

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A*	YES	YES	NO	NO	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	9	5	5	10
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leachable contaminants or	YES	9	5	5	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		12	12	12	8
Cumulative Potential Contaminant / Land Use Score		12	12	12	8
4. Final Susceptibility Source Score		14	14	14	14
5. Final Well Ranking		High	High	High	High

*Source considered highly susceptible due to contaminant source within zone 1A

Ground Water Susceptibility Report Public Water System Name : IDAHO COUNTRY SOUTH Well# : WELL #2

Public Water System Number 1090084 12/20/00 9:05:03 AM

1. System Construction		SCORE
Drill Date	5/5/82	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES	1997
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	NO	1
Total System Construction Score		5

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	NO	2
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		6

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	YES	NO	NO	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0

Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	9	5	5	10
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leachable contaminants or	YES	9	5	5	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		12	12	12	8
Cumulative Potential Contaminant / Land Use Score		12	12	12	8
4. Final Susceptibility Source Score		14	14	14	14
5. Final Well Ranking		High	High	High	High

*Source considered highly susceptible due to contaminant source within zone 1A

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund@ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.